## **CLAIMS**

1. An organometallic complex represented by the following general formula 2:

$$R_2$$
 $R_3$ 
 $R_4$ 
 $R_5$ 
 $R_6$ 
 $R_6$ 
 $R_6$ 
 $R_7$ 
 $R_8$ 
 $R_8$ 

(Formula 2)

(where  $R_1$  is an alkyl group, an aryl group, a substituted aryl group, a heterocyclic group or a substituted heterocyclic group;  $R_2$  is hydrogen, an alkyl group, an aryl group, a substituted aryl group, a heterocyclic group, or a substituted heterocyclic group;  $R_3$ ,  $R_4$ ,  $R_5$ , and  $R_6$  may be identical or different, and are individually hydrogen, halogen, an alkyl group, an alkoxyl group, an aryl group, a substituted aryl group, a heterocyclic group, or a substituted heterocyclic group; M is an element of Group 9 or an element of Group 10, and n = 2 when the M is the element of Group 9 or n = 1 when the M is the element of Group 10; and L is a monoanionic ligand having a  $\beta$ -diketone structure, a monoanionic bidentate ligand having a carboxyl group, or a monoanionic bidentate ligand having a phenolic hydroxyl group)

- 2. The organometallic complex according to claim 1, wherein the M is iridium or platinum.
- 3. The organometallic complex according to claim 1 or claim 2, wherein the L is any of monoanionic ligands shown by the following structure formulas 3 to 9.

20

5

NH O (Formula 6)

5

10

(Formula 8)

- 4. An electroluminescent device using the organometallic complex according to claim 1.
- 5. An electroluminescent device using the organometallic complex according to claim 2.
- 6. An electroluminescent device using the organometallic complex according to claim 3.

- 7. An electroluminescent device using the organometallic complex according to claim 1 as a light emitter.
- 8. An electroluminescent device using the organometallic complex according to claim 2 as a light emitter.
- 5 9. An electroluminescent device using the organometallic complex according to claim 3 as a light emitter.
  - 10. A light-emitting device using the electroluminescent device according to any of claims 4 to 9.